

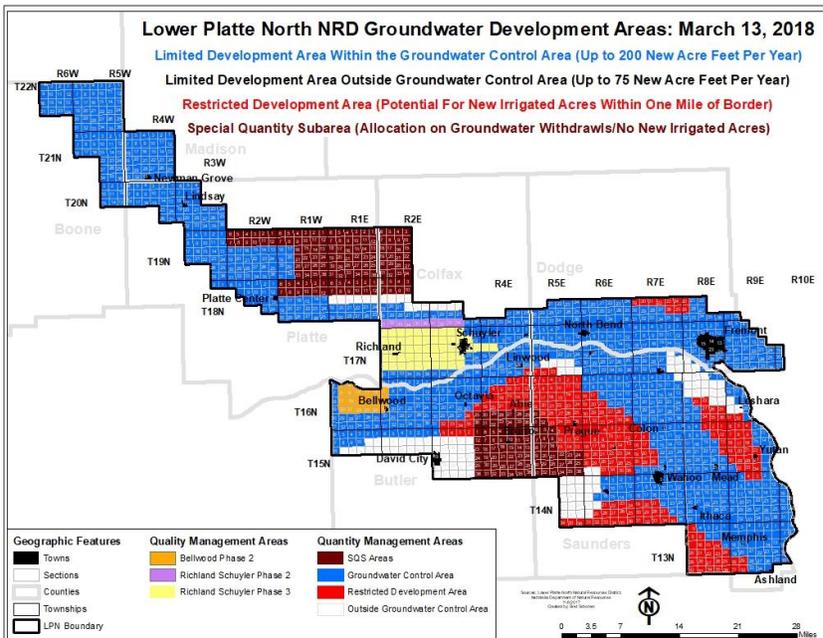
2018 Lower Platte North Natural Resources District Lower Platte Basin River Plan Report

Introduction

Report period is from January 1, 2018 to December 31, 2018.

Regulations/Management Activities

The map shows the GW Management Areas within the District. The entire District is in a Groundwater Management Area. As one of the rules implemented by the V-IMP, the District will control water development



utilizing consumptive use of water. The map shows allowable amount of water consumption allowed in each development area. These same numbers are also part of the Groundwater Rules and Regulations.

The District has two management areas designated because of higher nitrate concentrations, identified by Phase

Areas on the map. These areas require soil sampling, fertilizer application deadline restrictions and reporting.

The map also shows two Water Quantity Management Areas labeled as SQS on the map. The SQS areas requires a flow meter, a 27-inch rolling allocation and no new high capacity wells.

Water Use Information for Irrigation Wells

Total Number of Reports from Flow Meters – 844
 SQS #1 - 1.02 in/ac; SQS#2 - 1.01 in/ac,
 Other Meters within the District – 1.01 in/ac

Municipal and Industrial Groundwater Uses

Water Demand Inventory

The District is in the second year for obtaining water use reports for municipalities, industries and other high capacity wells other than irrigation. The District is spot checking to make sure all irrigation wells and expansion of acres variances are following the flow meter requirement. The tables show total water use from reporting agencies.

The District has reached out to Cargill and City of Schuyler on protecting the water supply for quality and quantity. The plan is to expand this partnership on education and the possibly of other projects.

City	Total Gallons (2018)
Ashland	
Bellwood	1,542,100
Newman Grove	57,066,600
Lindsay	46,979,300
Platte Center	16,692,100
David City	180,506,023
Wahoo	
Yutan	
Mead	
Fremont	
North Bend	
Schuyler	354,190,000
Cedar Bluffs	17,419,970
Prague	9,075,000
Weston	
Malmo	2,415,000
Ithaca	
Abie	4,413,100

Other Water Uses

	Well Reg	Total Gallons (2018)	Quantity	Description
Bellar Feedlot	G-086928	20,000,000	4500	Cattle
Darling Int.	G-171827	941,835		washing and Processing
Alten LLC	G-136279, G-136421	3,328,000		cooling and Processing
Keith Pillen		1,300,000	3000	Cattle (Pumped out of Lagoon)
Schuyler Coop	G-141892, G-141893	900,000		washing, processing, diluting, production
Western Sand Gravel (Sand Creek)	G-177745	34,274,000		processing, production
Western Sand Gravel (Wann Plant)		34,117,806		processing, production
Wilke Cattle Co		10,000,000	4500, 2000	Cattle, Swine

Well Permits Issued

The Lower Platte North issued 21 new wells permits in 2018. There were 16 irrigation wells, which 7 were replacement and 3 inactive wells; 4 stock wells and 1 other. The NRD also approved the option for a producer in Section 19-16N-03E to convert an irrigation well to a stock well. The table shows the actual wells that was not credited in the prior report and their status.

LPN-018676A	G-185409	Platte	18	1	28	S	Inactive
LPN-018676B	G-185413	Platte	18	1	28	S	Inactive
LPN-018679A	G-186141	Butler	16	2	13	S	Inactive
LPN-018679B	G-186142	Butler	16	2	13	S	Inactive

Public Outreach

The District continues to require and offer nitrogen/irrigation certification classes Districtwide. Staff has increased its youth education in numerous ways from presentations, demonstrations and other hands-on activities. The District developed a new website and videos along with increasing TV advertising with plans to develop more videos. The District has reached out and conducted two classes to urban residents in Fremont and Wahoo.

Basin-wide Coordination

The District is working with UNL-CSD and DNR on a study utilizing the AEM information and permanent dataloggers in SQS #2 management area. This study is designed to look at confining and unconfining aquifer layers and if AEM (Airborne Electromagnetic Survey) can distinguish these relationships. ENWRA conducted AEM flights throughout the District in 2018.

The District along with UNL-CSD drilled 3 monitoring wells down into the Dakota Aquifer. Each well was drilled to a least to a depth of 900 feet. Water samples were collected for water quality to determine if this aquifer could be used for potential development.

Certified Irrigated Acres

ALL IRR	All Irrigation Ground	All Irrigation Surface	All Irrigation Commingled	HCA IRR	HCA Ground	HCA Surface	HCA Commingled	NON HCA IRR	Non_HCA Ground	Non_HCA_Surface	Non_HCA_Commingled
County	County			County			County				
Boone	26687.41	0.00	0.00	Boone	26687.41	0.00	0.00	Boone	0.00	0.00	0.00
Butler	56492.82	671.15	373.05	Butler	44756.90	602.82	83.02	Butler	11735.91	68.32	290.03
Collfax	53223.68	240.34	1003.89	Collfax	46435.88	205.64	1003.89	Collfax	6787.80	34.70	0.00
Dodge	50574.96	84.52	599.09	Dodge	50574.96	84.52	599.09	Dodge	0.00	0.00	0.00
Madison	5537.94	0.00	0.00	Madison	5537.94	0.00	0.00	Madison	0.00	0.00	0.00
Platte	89114.12	694.11	1091.70	Platte	75943.60	694.11	1091.70	Platte	13170.05	0.00	0.00
Saunders	102144.74	2504.62	2055.21	Saunders	78149.41	2432.73	1823.73	Saunders	23995.33	71.89	231.48
Total	383775.67	4194.74	5122.94	Total	328086.10	4019.83	4601.43	Total	55689.57	174.92	521.51

Water Supply Inventory

The District continues to collect static water levels districtwide with extra measurements taken in the water quantity and quality management areas. Water samples continued to be taken from the network wells set up with assistance from UNL clearinghouse. All this information is being developed in a cloud base database for remote implementation. The District is looking at an interlocal agreement with City of Fremont and Dodge County for purpose of drainage issues and the high-water table around Fremont.

Ground Water Level Summary Comparison of Fall 2017 to Fall 2018

Aquifer Subarea	Number of Wells Measured	Median Change (Feet)	Mean Change (Feet)	Number of Wells Increased	Number of Wells Unchanged (+ or - 0.3 Feet)	Number of Wells Decreased
Platte Valley	58	0.60	0.64	37	14	7
Bellwood	5	0.09	0.28	2	2	1
Fremont	7	-0.10	-0.43	1	3	3
Fremont East	3	1.04	0.95	3	0	0
Leshara Platte Valley	1	0.04	0.04	0	1	0
North Bend	9	0.26	0.54	3	4	2
Octavia	5	0.39	0.94	4	1	0
Platte River Uplands	4	1.02	1.56	4	0	0
Schuyler	6	0.83	0.80	4	2	0
Wann	18	0.81	0.86	16	1	1
Shell Creek	46	4.76	5.58	46	0	0
Lower Newman Grove	2	[+4.72, +6.83]	5.78	2	0	0
Lower Shell Creek	6	2.03	1.66	6	0	0
Middle Shell Creek	17	6.42	6.88	17	0	0
Newman Grove	3	4.39	5.34	3	0	0
Platte Center	6	4.02	3.85	6	0	0
Shell Creek Uplands	2	[+1.24, +15.07]	8.16	2	0	0
Upper Newman Grove	9	6.15	5.91	6	0	0
Upper Shell Creek	1	9.29	9.29	1	0	0
Todd Valley	19	0.10	0.40	9	6	4
(north of Hwy 92)	8	0.96	0.96	7	1	0
(south of Hwy 92)	11	-0.08	-0.11	2	5	4
Uplands	56	1.57	3.90	37	12	7
David City	18	8.37	8.40	17	0	1
Leshara Uplands	4	0.62	0.65	2	2	0
Morse Bluff	3	2.26	4.11	3	0	0
Prague	6	2.28	5.82	5	1	0
Swedeburg	9	-0.08	-0.06	2	5	2
Weston	7	0.51	1.77	5	1	1
Yutan	5	-0.30	0.81	2	1	2
Yutan South	4	0.53	0.32	2	1	1
				72%	18%	10%

VI. New Depletions and Groundwater Consumptive Uses

Change ID	County	T	R	S	SS	Change type	Change date	Area	Wells	Use of irrigated acres	SDF	NIR feet	AF Peak Depletion
LPN-V-018-0478	Butler	16	1	17	BC CB	expansion	11/1/2018	11	G-068723	Crop Production	0.791	0.75	1.957725
LPN-V-018-0479	Butler	16	1	17	BD DA	expansion	11/1/2018	15	G-068322	Crop Production	0.791	0.75	2.669625
LPN-V-017-0482	Saunders	14	8	3	DO	expansion	11/1/2018	33	G-149433	Crop Production	0.697	0.75	5.175225
LPN-V-018-0489	Saunders	16	6	5	CD	expansion	11/1/2018	14	G-053940	Crop Production	0.819	0.75	2.57985
LPN-V-018-0488	Boone	22	5	2	AO	New Well	11/1/2018	136		Crop Production	0.32	0.75	9.792
LPN-V-018-0491	Boone	22	5	14	BA BB	New Well	11/1/2018	70		Crop Production	0.373	0.75	5.87475
LPN-V-018-0490	Saunders	16	6	5	CC	expansion	11/1/2018	16	G-053940	Crop Production	0.819	0.75	2.9484
LPN-V-018-0481	Boone	22	5	20	AD DA DD	New Well	11/1/2018	120		Crop Production	0.424	0.75	11.448
LPN-V-018-0484	Dodge	17	6	1	BO	expansion	11/1/2018	12	G-082632	Crop Production	0.866	0.75	2.3382
LPN-V-013-0362	Saunders	14	7	20	BO	New Well	11/1/2018	130		Crop Production	0.792	0.75	23.166
LPN-V-018-0477	Madison	21	4	18	DA	expansion	11/1/2018	21	G-145791	Crop Production	0.697	0.75	3.293325
LPN-V-018-0483	Colfax	18	2	19	DO	expansion	11/1/2018	18	G-115761	Crop Production	0.96	0.75	3.888
LPN-V-018-0480	Boone	21	5	3	DA DB	New Well	11/1/2018	80		Crop Production	0.499	0.75	8.982
LPN-V-018-0485	Colfax	17	3	22	AD	expansion	11/1/2018	7	G-058232	Crop Production	0.96	0.75	1.512
LPN-V-014-0406	Saunders	14	6	26	AA	expansion	11/1/2018	25	G-004975	Crop Production	0.918	0.75	5.16375

LPN-V-016-0441	Saunders	15	7	20	AA	expansion	11/1/2018	34	G-093761	Crop Production	0.96	0.75	7.344
LPN-V-012-0194	Platte	20	4	4	CD	expansion	11/1/2018	54	G-073356	Crop Production	0.806	0.75	9.7929
LPN-V-013-0281	Saunders	17	5	18	CD	New Well	11/1/2018	36		Crop Production	0.897	0.75	7.2657
LPN-V-013-0248	Saunders	13	9	34	BA & BB	New Well	11/1/2018	65		Crop Production	0.895	0.75	13.089375
LPN-V-013-0287	Saunders	17	8	34	BO	New Well	11/1/2018	85		Crop Production	0.912	0.75	17.442
LPN-V-013-0237	Platte	20	4	18	B	expansion	11/1/2018	66	G-072619	Crop Production	0.637	0.75	9.45945
LPN-V-013-0355	Dodge	17	5	5	BA	expansion	11/1/2018	36	G-166805	Crop Production	0.811	0.75	6.5691
LPN-V-013-0275	Butler	16	2	7	CC	expansion	11/1/2018	30	G-144994	Crop Production	0.928	0.75	6.264
LPN-V-013-0247	Saunders	15	7	31	B & C	New Well	11/1/2018	100		Crop Production	0.87	0.75	19.575
LPN-V-013-0337	Colfax	17	3	22	CB	expansion	11/1/2018	5.45	G-057511	Crop Production	0.96	0.75	1.1772
LPN-V-018-0486	Boone	22	5	2	BO	New Well	11/1/2018	136		Crop Production	0.32	0.75	9.792
	Platte	18	1	24	BD	expansion	11/1/2018	5.6	G-120056	Crop Production	0.94	0.75	1.184
	Platte	19	2	5	CD	expansion	11/1/2018	30	G-164643	Crop Production	0.96	0.75	6.48
	Platte	18	2	6	CD	expansion	11/1/2018	40	G-161854	Crop Production	0.96	0.75	8.64
							Totals	1431.05					214.863575